DETAILED ACTION

1.   This action is responsive to the paper(s) filed 4/2/07.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-3, 6-8, 11, 12, 17-20, 22, 25-27, 30-35, 38-42, 44-46, 48 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Merriman et al in view of

Alberts (US5937392).

        Merriman et al teaches selecting online advertisements to serve to users when a

user/client browser requests an ad (ad opportunity). Ad campaigns are stored in the

system and define target audiences, number of desired impressions and start/stop

dates when the ads are to be run. The system chooses a particular ad to be served

from among a plurality of qualifying ads. Merriman et al teaches a satisfaction index

(SI) as [6:27-59]:

$$SI = \frac{n}{N} * \frac{end - start}{now - start}$$

Where:
  n: =the number of times the particular advertisement has
     been viewed by anyone
  N: the number of times the advertisement is to be see by
     anyone
  end-start: the total number of days that the advertisement
     is scheduled to run
  now-start: the number of days that the advertisement has
     run to date

Although Merriman et al does not state that his (actual views) * (campaign

duration) / (elapsed time) = (estimated total campaign views), however, this is the case.

If 5 views were had for day 1 of a 3 day campaign, n * (end-start)/(now-start) would

equal 5*(3)/(1) which equals 15. This represents a linear projection of expected total

views given the views to date as:

5 * 3 / 1 = 15 views. This 15 represents the sum of the 5 already encountered and the

(linearly expected) 10 future impressions for days 2 and 3 of the 3 day campaign given

the daily rate experienced. Said another way, Merriman et al relies upon the sum of

past impressions and future impressions as 5 + 5 + 5 = 15. Merriman et al's ratio is the

same as that claimed yet it is inverted and it represents past & future impressions using

a linear prediction for the future rather than a sum of non-uniform time predictions.

Merriman otherwise has the same ratio components, but evaluates them as estimated

total estimate / goal. However, it would have been obvious to one of ordinary skill at the

time of the invention to have evaluated the relationship desired by Merriman et al's

components (the same ones as applicant) as goal/(total estimate) – in other words, it would have been obvious to one of ordinary skill at the time of the invention to have flipped Merriman's SI and proceeded with ad selection. Either way, a ratio measurement can be made regarding whether ads are running ahead of schedule or behind schedule. Clearly in this case an ad running ahead of schedule would be evaluated as < 1 rather than the > 1 as written by Merriman et al. Merriman et al's SI is used to assign priorities to (qualifying) ads and the ads are selected accordingly. The SI is taken to be dynamic because the SI represents estimated total opportunities which is defined in part by the "n" term and because Merriman et al updates the server when views are made (n) – thus dynamically affecting the SI. Like applicant, the system provides a dynamic rotation of ads that tends to slow down ads that are being served to quickly. The steps of Merriman et al are carried out by programming executed by a computer server. The functionality which stored the ad campaign data is taken to provide an ad manager. The functionality which schedules the ads is taken to provide the ad engine. Merriman et al does not provide details about how the system is initialized and at what initial rate the ads are served when the campaign first starts (with views = 0, SI = 0). Merriman et al does not teach the use of estimated impressions for *starting* an ad campaign scheduling frequency. **Alberts** also teaches a computer controlled ad campaign where the server chooses a particular ad frequency. Alberts teaches a system that can predictively model the number of hits (ad opportunities) in various time regions. For example, the system can be used to predict that weekend page views are slower than during working hours of M-F 8a-5p. Alberts uses recurring

patterns, historical statistics and current statistics to provide control of ad

distribution/impressions [6:43-45, 66-67]. It would have been obvious to one of ordinary

skill at the time of the invention to have used such historically-based predictions to

initiate the system of Merriman et al so that the initial ad frequencies are given a

balanced start (not too fast or too slow). Both Merriman et al and Alberts use current

statistics to further dynamically change the distribution schedule. Merriman et al

teaches the use of estimated ad opportunities left. Merriman et al essentially treats the

system as a linear/regular activity (1 time period), whereby the views seen in time

period 1 (day 1) are used to predict the remaining time periods, and assuming that

activity between those time periods will remain the same. Alberts teaches that the ad

campaign can be broken up into time periods (which sum to the total campaign

duration), so that the granularity can capture and measure activity that changes over

time periods. Each time period can then be treated with dynamic frequency scheduling

so that an advertiser can control the intensity of advertising in various, smaller, time

periods [6:44-56]. It would have been obvious to one of ordinary skill at the time of the

invention to have treated the scheduling of Merriman et al in such a manner so as to

provide more control over specific time periods; providing a sum of each time segment's

prediction rather than Merriman et al's product would be an obvious way to account for

Alberts' time periods that have different predictions as compared to Merriman et al's

time segments which are inherently defined as equal predictions. As stated above, it

would have been obvious to one of ordinary skill at the time of the invention to have

initially populated/relied upon estimates for scheduling and then used actual statistics to

dynamically change the scheduling based on current statistics. The non-linear time periods taught by Alberts represent applicant's array elements.

Response to Arguments

4.   Applicant argues that Merriman et al fails to provide a sum of display opportunities. Examiner disagrees – Merriman et al's SI provides a total of past and future opportunities, the future opportunities represented by way of a product. This mathematically is the same as a summation of each future day, where each future day has the same value. 5+5+5 is the same as 3*5.

5.   More importantly, applicant and examiner agree however that Merriman et al does not allow for a prediction of total future opportunities that are a collection of varying values. However, Alberts indeed teaches that greater accuracy can be had by splitting up time periods into segments and allowing their differing values to be accounted for. Alberts suggests to one of ordinary skill that rather than summing 5+5+5 (or 5*3), accuracy can be increased by allowing each future time segment to have its own value. Therefore one of ordinary skill could predict the future opportunities as say (for example) 4.9 + 4.8 + 5.2, even if the average past opportunity "rate" was say, 5. One of ordinary skill would recognize that Merriman et al's product cannot be used when variations in each time period are to be accounted for. Therefore the summation of each time period (4.9 + 4.8 + 5.2) would have to be used in calculating a superior satisfaction index.

6.   Applicant argues that Merriman et al would increase ad delivery following a time period of low opportunities. Examiner agrees. Applicant points out the benefit of being able to predict such a low period. This is the essence of the portion of Alberts relied upon by Examiner; not all time periods are created equal – provide a system that can account for different time periods having different predicted opportunities (such as slower weekends as noted by Alberts)

7.   Applicant argues that combining Alberts with Merriman et al changes the "principle of operation" [MPEP 2143.01VI] of Merriman et al. Both Merriman et al and Alberts individually, as well as the proposed combination of both provide for an automated system that dynamically adjusts the serving of ads so that an ad campaign (predefined total desired exposures over predefined time period) may stay "on track" as the campaign period elapses, given the history of ad exposures. All 3 share this same "principle". True, a combination would result in a "change" to the satisfaction index, but it represents a change that one of ordinary skill would recognize as a *predictable improve*ment to the SI of Merriman et al. And it would improve the SI in the manner consistent with Alberts' disclosure.

   KSR guidelines [Federal Register Vol. 72, No 195 – Examination Guidelines for Determining Obviousness Under 35 USC 103 in view of the Supreme Court Decision in *KSR International Co.* v. *Teleflex Inc.*]:

- *When considering obviousness of a combination of known elements, the operative question is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions. "*

- *The rationale to support a conclusion that the claim would have been obvious is that a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. One of ordinary skill in the art would have been capable of applying this known technique to a known device (method, or product) that was ready for improvement and the results would have been predictable to one of ordinary skill in the art.*

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey D. Carlson whose telephone number is 571-272-6716. The examiner can normally be reached on Mon-Fri 8a-5:30p, (work from home on Thursdays).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Eric Stamber can be reached on (571)272-6724. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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